

WHAT IS CLAIMED IS:

1. An orthopaedic brace temperature controlled apparatus, comprising:

a temperature element having a first surface and a second surface; and

a thermally conductive sheet connected to each of the first and second surfaces;
2. The apparatus as claimed in Claim 1 further comprising a thermally insulating sheet, the temperature element being located within the sheet.
3. The apparatus as claimed in Claim 2 wherein the thermally insulating sheet is located between the thermally conductive sheet connected to the first surface and the thermally conductive sheet connected to the second surface.
4. The apparatus as claimed in Claim 1 further comprising thermal adhesive located between the first surface and the thermally conductive sheet and between the second surface and the thermally conductive sheet.

5. The apparatus as claimed in Claim 1 further comprising a temperature controller connected to the temperature element.

6. The apparatus as claimed in Claim 1 wherein the temperature element is a Peltier chip.

7. An orthopaedic brace, comprising:

a main body having an outer surface, an inner surface and an opening;

two elongated primary straps connected to one side of the main body, the primary straps being generally parallel to one another;

5 a secondary strap connected to the end of each of the primary straps;

buckles connected to the main body on the outer surface;

a first set of primary strap fasteners being connected to the outer surface of the main body adjacent the opening;

a second set of primary strap fasteners connected to the end of the primary straps adjacent the connection point of the primary straps and the secondary straps

10

8. The brace as claimed in Claim 7 further comprising:

a first set of secondary strap connectors located on a surface of each of the secondary straps; and

a second set of secondary strap connectors located on the same surface and parallel to the first set of secondary strap connectors.

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9. The brace as claimed in Claim 7 further comprising a pocket connected to the inner surface of the main body adjacent the opening.

10. The brace as claimed in Claim 9 wherein the pocket includes a front panel and a rear panel, the rear panel being connected to the inner surface of the main body.

11. The brace as claimed in Claim 10 wherein the front panel is mesh.

12. The brace as claimed in Claim 9 further comprising a temperature pad.

13. The brace as claimed in Claim 12, wherein the temperature pad comprises:

a temperature element having a first surface and a second surface;

a thermally conductive sheet connected to each of the first and second surfaces;

a thermally insulating sheet located between the thermally conductive sheets, the

5 temperature element being located within the sheet; and

thermal adhesive located between the first surface and the thermally conductive sheet

and between the second surface and the thermally conductive sheet.

14. The brace as claimed in Claim 13 further comprising a temperature controller connected to the temperature element.

15. A back brace comprising:

a main body having an inner and outer surface;

straps connected to either side of the main body; and

a spinal cushion connected to the inner surface of the main body.

16. The brace as claimed in Claim 15 wherein the main body includes an inner panel and an outer panel.

17. The brace as claimed in Claim 15 further comprising a pocket connected to the inner surface of the main body and adjacent the spinal cushion.

18. The brace as claimed in Claim 17 wherein the pocket comprises a rear panel connected to the inner surface of the main body and an outer panel connected to the rear panel.

19. The brace as claimed in Claim 18 further comprising a temperature pad located within the pocket.

20. The brace as claimed in Claim 19 further comprising a temperature controller connected to the temperature pad.

21. An orthopaedic brace, comprising:

a main body having an inner and outer surface;

straps connected to the main body;

a pocket connected to the inner surface of the main body; and

5 a temperature pad located within the pocket.

22. A self-contained heating and cooling orthopaedic kit, comprising:

an orthopaedic brace including a main body having an inner and outer surface, straps connected to the main body, a pocket connected to the inner surface of the main body and a temperature pad located within the pocket;

5 a temperature controller connected to the temperature pad, the controller being adapted to deliver power to control the intensity of the temperature;

a rechargeable battery adapted to be placed in the temperature controller to provide power to the temperature controller; and

a rechargeable battery unit adapted to receive the battery to recharge the battery.

23. An orthopaedic brace temperature control circuit, comprising:

a first temperature element having a first surface and a second surface;

a second temperature element having a first surface and a second surface; and

a transistor connected to a voltage divider for supplying voltage to the temperature
5 elements.

24. The circuit as claimed in Claim 23 further comprising:

a third temperature element having a first surface and a second surface; and

a fourth temperature element having a first surface and a second surface, wherein the
first surfaces of third and fourth temperature elements are thermally coupled
5 to the second sides of the first and second temperature elements.

25. The circuit as claimed in Claim 24 further comprising a diode connected between the first and the second temperature elements and the third and fourth temperature elements.